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SUPPLEMENT TO
REPORT

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The line from Harbin to Mukden is single track throughout most of its length. The Japanese had double tracked it all the way from Harbin to Dairen, but during World War II most of the second track was taken out by the Japanese. In 1951 there was still a double right of way, but a total of not more than 40 kilometers between Harbin and Mukden was double tracked. The double track sections, the longest of which was some 10 or 12 kilometers, were not in use through 1950 due to the fact that the block signal system which was taken out by the Japanese was not reinstalled after World War II. The double track stretches, therefore, were unimportant to the operations of the railroad while [] They were planning to double track the line from Harbin to Dairen, and work may well have started by now. [] the double tracking would take not much over two months, since the stations were built to handle

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double track traffic, and the right of way was in fair shape to take another track again. In effect, however, up until early 1950 the Harbin-Dairen line was only single track.

The line from Manchouli to Harbin is single track and the right of way is only built for one track. The stretch Harbin-Mutankiang was double tracked by the Japanese, but the second track was taken out during the war and not replaced afterwards. An exception to this was the short stretch between Yapuloni [just west of Shihtowhotze] and Sarahotze [a small siding eight kilometers west of Hengtaohotze], where the Japanese had built a second line, following a separate alignment, to avoid the steep grade on the old section. Both these tracks were in use in early 1950, although there was no block signal system for control. The rest of the line, from Mutankiang to Suifenho, is single track with a single right of way.

2. [redacted] other sidings between stations [redacted]

Besides Sarahotze [redacted] there was one between Saolin and Maoershan, at a place called Erdahotze, and another siding at Badahotze, which is between Hsinlinho and Suifenho.

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3.

The limiting factors for all lines are the grades, the steepest of which are as follows: [three points are given; the start, crest and end]

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a. On the Manchouli-Harbin line, the grade Buhedoo [Pokotu]-Hingan [just west of Pitela]- Erikte [Ilikotu] has rises on both sides of up to 15 in 1,000. Incidentally there is a tunnel at Hingan somewhat over one kilometer in length.

b. Also on the Manchouli-Harbin line, there is a milder grade rising westward for a long distance, from Chalainoerth to Manchouli. This grade is up to about 6 or 7 in 1,000.

c. On the Harbin-Suifenho line, the grade Shihtowhotze-Gaolintze-Hengtaohotze is about 16 in 1,000 on the old section (both slopes) and 8 in 1,000 on both slopes of the new stretch of separate alignment mentioned in par 1 above.

d. On the same line, the grades on both sides of the stretch Madaoshe-Daimago-Muleng are about 16 or 17 in 1,000.

e. The grades on both sides of the section Makiaoho-Taipinlin-Hsinlinho, just west of Suifenho, are about 16 or 17 in 1,000.

f. On the same line, Harbin-Suifenho, there are two other smaller grades, one at Etsandanshe-Saolin-Maoershan, both sides about 7 or 8 in 1,000, and the grade of about 6 or 8 in 1,000 which rises eastward from Badahotze to Suifenho.

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g. The only real grade on the Harbin-Mukden line is the one from Taolaichao-Laochaogan just south of the southern Sungari river⁷- Yaomen. This grade, both sides of which are about 8 or 9 in 1,000, applies only to the older, or western track. The newer eastern track, running about from Taolaichao to Yaomen, was the only one in use in 1950 and had no grades above 2 or 3 in 1,000, being built on more level ground. During the Japanese days, the western track was used for light load trains, the eastern track for heavy load trains. Since the western track was still there in 1950, and there were two single track bridges over the river, it would be easy to operate on both tracks. The only thing that would be needed would be installation of a block signal system.

The maximum gross tonnage which can be pulled over the steeper grades, 15 or 16 in 1,000, depends upon the locomotives in use at present. Prior to the war the railroad used ten-wheel Baldwin ("Decapod") locomotives, and maximum loads ran about 1500 to 1800 tons, going as high as 2,000 tons on the Harbin-Anganki run. Now, however, the Changchun Railroad has only old Japanese locomotives received from the South Manchurian Railroad. All these locomotives, which are of several types, were in extremely bad repair in early 1950 and therefore had varying (low) load capacities.

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the average locomotive in use in early 1950 had a load capacity on fairly level stretches of about 1,200 tons, and on steep grades the maximum load would be about 800 tons using two locomotives.

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4.

There were no block systems in use but it was planned to re-install them on the Harbin-Dairen line after completion of the double tracking. The signals on all lines were of the semaphore type, with red and green electric signals at stations which had power. Harbin had quite a good yard system, with many small electric shunting signals as well as the larger gantries. The Harbin station and yards were run from a central signal box.

There were no signals between stations unless there were switches, so the distances between signals varied. The minimum distance between a signal and its switch was 200 meters on the straightaway, and more if necessary due to curves or other obstructions.

5.

For the Chinese Changchun Railroad as a whole, there was a speed limit of about 80 kmh for passenger trains and 35-40 kmh for freight trains. This was the top limit; local limits were continually imposed on a temporary basis due to changing track conditions. The only permanent low speed limits were on the steep grades between Harbin and Suifenho.

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Probably there were low limits on all steep grades.

6.

If only freight trains were run, it would be possible to achieve the following maximum capacities: 20 pairs of trains daily from Manchouli to Suifenho;

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20 to 25 pairs daily from Harbin to Mukden without double track and block signals; 60 to 70 pairs daily between Harbin and Mukden using double track and block system. The above estimates would be true only if all sidings were kept in use, a condition which was never extant in my day because it was not necessary and also because they lacked sufficient labor and technical crews. The above daily maximum schedules could be kept up as long as the authorities wanted, depending upon how important it was to them.

7.

The available numbers of locomotives, cars, and personnel would all be factors in preventing maximum capacity. However, as of early 1951 they had sufficient equipment and personnel to achieve this maximum had it been warranted. Naturally all these things are relative to conditions which may well have changed radically

8.

There is no longer any private travel, since persons who merely take trips are open to suspicion. There is not supposed to be private travel. Therefore, almost all passengers are government officials. Thus the old pattern of passenger traffic has disappeared.

Certainly the government could reduce this drastically in the event of emergency. For each passenger train, however, you have to count the equivalent as being one and one-half freight trains, for rail traffic purposes. Thus 17 freight trains and two passenger trains would equal 20 freight trains.

9.

no local or work trains were run during periods of maximum pressure. Maximum pressure was during the winter, hence all but emergency maintenance was conducted during the slack summer period. The railroad was not equipped with maintenance trains as such, but rather used regular box cars as summer maintenance trains. There were some emergency trains equipped with cranes, rails, ties, instruments, etc, which were kept on sidings at various stations. Thus if the railroad decided to run at maximum capacity for extended periods, local and work trains would not interfere with operations. Only emergency trains would be sent out as needed.

10.

gross tonnage per train and the maximum number of trains per day reduced in winter time

The old rule used to be a ten percent reduction, but since 1946 they have tried to reduce only insofar as local weather conditions dictate. The winters are mild as far as actual snowfall is concerned, so that for most of the railroad there are sometimes only one or two days on which weather is bad enough to force limited operations. The main limiting factors are bad head winds and extreme cold; snow is no particular problem. Traffic reductions due to cold and/or wind are decided upon locally by the Regional roundhouse chiefs or locomotive section chiefs. The area of very extreme cold is that between Manchouli and Buhedoo / Pokotu/. There is one rotary snowplow in each bad weather district, with a total for the railroad of about 8 or 10 plows.

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